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DDI
6 Jun 77

The Director of Central Intelligence

Washington, D.C. 20505

Executive Registry
77-1562/2

10 JUN 1977

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FILED IN
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The Honorable Clarence J. Brown
House of Representatives
Washington, D.C. 20515

Dear Mr. Brown:

Nice to have breakfast with you Wednesday morning, and I appreciate the opportunity to debate again the merits of the Central Intelligence Agency Study on Oil. Let me only assure you that I am most conscious of the importance of our being objective and accurate, and of taking many efforts to check the validity of our predictions.

One of those efforts was to ask my staff to review each of the other studies that is available and to prepare a comparison of them with ours. I thought you might enjoy having a copy of that comparison in order to see where our work is in dispute and where it is not. I am enclosing a copy of that review.

If there is any way I can be helpful in this situation, please do not hesitate to call on me.

Yours sincerely,

STANSFIELD TURNER

Enclosure

(EXECUTIVE REGISTRY FILE Congress)

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Comparative Analysis of 1985 Oil Demand Projections

A comparison of the CIA projections of worldwide energy/ oil supply and demand projections with recent forecasts of other organizations reveals few major differences outside the Communist area. These are largely because of a lack of understanding of Soviet oil production problems. Most private, oil industry, and government forecasters generally agree that demand for OPEC oil will exceed OPEC's ability or willingness to produce by 1985 or shortly thereafter. In addition to the studies analyzed below, informal discussions with other observers indicate that the CIA analysis is looking stronger after nearly two months of reflection.

A large number of major worldwide energy supply and demand forecasts have been published during the past six months or so. The attached tables compare the principal findings in the CIA 1985 projection with nine representative studies. Comparable details are not available for several of the studies, although estimates of required OPEC production (so-called "bottom line") are indicated for each.

The CIA projection and methodology are most closely paralleled in studies prepared by Exxon, the OECD and FEA. The energy demand forecast in each of these studies is determined

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by projecting economic growth, and then allowing for conservation. On the supply side, the CIA projections are based on an analysis of available non-OPEC energy supplies (oil, natural gas, coal, nuclear, and hydro), including the net trade position of the Communist countries. OPEC countries supply the residual amount of oil necessary to meet world demand. CIA's forecast of required OPEC production in 1985 is higher than most other studies, primarily reflecting our more pessimistic assessment of the Soviet oil balance. The difference in the Soviet estimate alone is as large as 3.9 million to 5.5 million b/d in 1985.

Two studies -- by Walter J. Levy Associates and the International Energy Agency -- conclude that required OPEC production in 1985 may well exceed OPEC willingness to produce at the required level. The Levy and IEA studies each assume the Communist countries will be small net exporters in 1985.

The SRI World Energy Study was presented in a preliminary form and is heavily caveated. For example, summary results distributed at the second conference of participating clients held at SRI on April 21 are carefully labeled "preliminary Work (to be revised)" and state that "numbers are for illustrative purposes only." Nevertheless, people are quoting the study as definitive when they contrast it to the CIA analysis.

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The SRI study consists of a highly complex econometric model of energy demand by end-use sectors as well as an interfuel competition model which balances supply and demand. Its design is determined by its long-term nature; the goals of SRI's work include forecasting energy supply, demand, and price 50 years in the future. Because of this, results for any point along the way, such as 1985, are not necessarily comparable to studies such as the CIA report or oil company estimates which look at nearer-turn developments.

Because of its extreme complexity and the large number of assumptions and interactions which come into play, we are unable to explain some of the results of the SRI model. In addition, in present form it obviously contains some inconsistant data. For example, SRI projects that Mexican oil production in 1985 will be lower than it is today (see table). On the demand side, the small volume of apparent US oil consumption (production plus imports) is difficult to explain, since SRI projects US and Canadian 1985 oil consumption lower than US consumption alone last year.

The Report of the Workshop on Alternative Energy Strategies (WAES), sponsored by MIT, is the most recent study published and generally agrees with CIA's analysis. The WAES study forecasts energy supply and demand for the period 1985-2000 and therefore focuses its attention on long-term issues.

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WAES concludes that an oil supply/demand crunch will occur most probably between 1985 and 1995, even if prices rise substantially.

The CIA forecasts the crunch will come earlier than WAES. Our estimate for world oil demand and OPEC oil production in 1985 is about 10 million b/d higher than WAES. The differences appear in several assumptions: (1) CIA uses slightly higher economic growth rates than WAES; (2) WAES is much more optimistic on nuclear energy supplies; (3) WAES projects oil demand in non-OPEC LDCs 2-3 million b/d less than the CIA study; (4) WAES assumes the Communist countries will have no net effect on Free World supply and demand; (5) WAES assumes future government policies will vigorously encourage energy supply, development and conservation consuming countries.

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Comparison of CIA and SRI 1985 Oil Production and Import Projections

(Million b/d)[1]

	CIA	SRI[2]
Oil Production:		
United States & Canada	11.3-12.5	9.9
Mexico	3.0-4.5	0.9
Western Europe	4.0-5.0	2.5
USSR	8.0-10.0	13.4
OPEC	46.7-51.2[3]	33.2
Oil Imports:		
United States & Canada	13.6-16.8	7.0
Western Europe	11.4-13.6	12.3
Japan	8.0-8.7	6.7
China	..	-2.4
USSR/Eastern Europe	3.5-4.5	-2.1

[1] SRI data converted from quadrillion BTUs using SRI conversion factor: 5.85 million BTU per barrel of crude oil.

[2] SRI data characterized as being "for illustrative purposes only."

[3] Required OPEC production to balance unconstrained demand.

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Comparison of 1985 Oil Demand Projections

(Million b/d)

	CIA (Apr 77)	Exxon (Mar 77)	OECD[1] (Jan 77)	FEA[1] (Feb 77)	Levy (Sep 76)	IEA/SLT (Mar 77)	SRI[2] (Apr 77)	WAES[3] (May 77)	Citibank (May 77)
Free World Oil Demand	68.3-72.6	68	64.9	70.3	67.7[4]	N.A.	N.A.	58-63	N.A.
United States	22.2-25.6	N.A.	21.3	19.8	23.7	N.A.	16.9[5]	20.1-23.3[5]	N.A.
Canada	2.9-3.5	N.A.	2.5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
OECD Europe	15.8-18.2	N.A.	19.0	20.6	19.6[4,5]	N.A.	14.8	13.5-14.8	N.A.
Other Free World	26.0-26.7	N.A.	22.1	29.9[5]	24.4[4,5]	N.A.	N.A.	23.2-27.6	N.A.
Non-OPEC Oil Supply	24.5-26.3	25	25.3	25.8	23.2	N.A.	N.A.	21.7-24.4	N.A.
United States	10.0-11.0	11[5]	11.6	12.2	13.0	N.A.	9.9[5]	11.9-14.0[5]	N.A.
Canada	1.3-1.5	N.A.	1.4	1.4	N.A.	N.A.	N.A.	N.A.	N.A.
OECD Europe	4.0-5.0	5	4.4	4.0	5.0	N.A.	2.5	4.1	N.A.
Other Free World	8.5-9.5	9	7.9	8.2	5.2	N.A.	N.A.	5.7-6.3	N.A.
Net Communist Exports	(3.5-4.5)[6]	1	0.7	(0.4)[6]	N.A.	N.A.	4.5	N.A.	(1.5)[6]
USSR/Eastern Europe	(3.5-4.5)[6]	N.A.	(0.5)[6]	(1.2)[6]	N.A.	N.A.	2.1	N.A	N.A.
China	0	N.A.	1.2	0.8	N.A.	N.A.	2.4	N.A.	N.A.
Required OPEC Production	46.7-51.2	42	39.3	45.6	44.8[4]	42-49	33.2	36-39	39.0

1. Reference Case.
2. Data labeled as preliminary and for illustrative purposes only.
3. Range derived from Cases C and D.
4. Assumes OPEC domestic consumption of 2.9 million b/d.
5. Includes Canada.
6. Parentheses denote negative numbers.

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Comparative Studies

1. The International Energy Siutation: Outlook to 1985 CIA ER 77-10240 U, April 1977

2. World Energy Outlook - Exxon Corporation, March 1977 (U)

3. World Energy Outlook - Organization for Economic Co-operation and Development (OECD), Paris, January 1977 (U)

4. National Energy Outlook - Federal Energy Administration (FEA), preliminary draft circulated for review, Feb 1977 (U)

5. An Assessment of US Energy Policy - W.J. Levy, Consultants Corp, New York, September 1976 (Client Private)

6. 2nd World Energy Study Conference - (preliminary work to be revised), Stanford Research Institute (SRI), Menlo Park, California, April 1977 (Client Private)

7. SLT Report on the Review of Energy Programs in the IEA Countries - International Energy Agency, Standing Group on Long-Term Co-operation (IEA/SLT), Paris, March 1977, (OUO)

8. Energy: Global Prospects 1985-2000 - Workshop on Alternative Energy Strategies (WAES), McGraw Hill, May 1977 (U)

9. Testimony of Harold Cleveland, Vice President, Citibank, N.A., New York before the Ways and Means Committee of the US House of Representatives (U)

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Remarks:

The Director:

The attached is per your request by noon, 9 Jun 77, for an unclassified version of the memorandum on comparative analysis of 1985 oil demand projections for passage to Representative Clarence Brown.

Sayre Stevens

Sayre Stevens
DDI

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FROM: NAME, ADDRESS AND PHONE NO.	DATE
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9 June 1977

MEMORANDUM FOR THE RECORD

SUBJECT: Unclassified Version of Memorandum on Comparative Analysis of 1985 Oil Demand Projections

The DCI requested by noon, 9 June 1977, an unclassified version of the memorandum on comparative analysis of 1985 oil projections, which he will pass to Representative Clarence Brown.

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Deputy Director
Economic Research

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